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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,981	06/26/2003	Manish Vaishya	2002P11414US01; 60,427-60	6450
24500	7590	08/24/2006	EXAMINER	
SIEMENS CORPORATION INTELLECTUAL PROPERTY LAW DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			PENDLETON, BRIAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/606,981	VAISHYA ET AL.	
	Examiner	Art Unit	
	Brian T. Pendleton	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9, 10, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Parent claims 1 and 11 indicate that a noise source sound is used as a calibration reference. Thus, the noise source sound is already known and the estimation step recited by the claims is deemed confusing.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The functionality of the calibration reference and the associated “calibration”. The generally accepted definition of a calibration in the art refers to setting a parameter of the noise control system according to a test signal, however, Applicant appears to have a different functionality, specifically that the “calibration” is actually the noise canceling function itself and there is no significant recitation of claim elements to clarify the system’s operation. Examiner is determining the merits of the claims with the generally accepted definition of calibration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 9, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Culman et al, US Patent Application Publication 2003/0123675. Culman et al teach a hard disk drive, having a spindle and voice coil motor, with active noise reduction comprising microphone 10, memory 20, controller 18, and transducer (speaker) 16 in figure 2. As disclosed in paragraphs 32-39, the system has pre-stored noise waveforms located in memory 20 that correspond to different operating characteristics of the hard disk drive. Specifically in paragraph 36 it is disclosed that during the manufacturing process of the hard disk drive, the recording of different noise waveforms is done. Thereby, Culman et al teach selecting at least one noise source (spindle, voice coil motor) to use as a calibration reference, the calibration occurring during manufacturing. Claims 1, 3 are rejected. As to claim 2, the spindle and voice coil motor functionality at several operating conditions is used to generate waveforms for use in noise reduction. The different operating conditions read on dominant order noise source sounds. Regarding claim 9, paragraph 32 states that a canceling noise is generated from the pre-stored waveforms. As to claim 10, the microphone 10 is used to cancel the residual noise that is not cancelled by the stored waveforms.

Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Eichler et al, US Patent Application Publication 2003/0228019. Eichler et al teach a method and system for reducing noise comprising microphones 102 and 104, and audio controller 106 for driving a speaker (not shown). As discussed in paragraphs 53-58, the system uses the ambient noise of an

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aircraft to pre-calibrate the system, the system being pre-calibrated for the transfer function of the sound pressure loss of the noise between microphone 104 and microphone 102. Thus, Eichler teaches a microphone 104 which indicates the system response to a combination of a noise source sound a noise cancellation signal whereby the controller 106 uses a sound pressure level converter (SPL, paragraphs 47 and 48), the functionality being established by using ambient noise as a calibration reference. Claims 1 and 11 are rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culman et al in view of Pfaff et al, US Patent 5,146,505. Culman et al do not disclose that the noise source is a vehicle engine and a harmonic representation of a plurality of engine speeds and throttle conditions are determined. Pfaff et al teach an active noise control system for a vehicle engine comprising controller 26 and loudspeakers 24, 28. There are several sensors for sensing the multiple harmonic components of the noise generated by the engine. The noise varies according to engine speed and throttle conditions. See column 4 lines 4-26. Active noise control for vehicle engine noise was well known at the time of invention and it was obvious to apply the principles taught by Culman et al in a vehicle. In addition, it would have been obvious to one of ordinary skill in the art at the time of invention when presented with the calibration technique of Culman for use in a vehicle to determine the noise waveforms of a plurality of engine speeds and

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throttle conditions, as taught by Pfaff, for the purpose of improving the noise control performance. Regarding claims 7 and 8, the choice of the harmonic order of selected vehicle engine noise sound for calibration purposes was purely one of ordinary skill in the art would have made knowing its benefit and the claimed order would have been realized without undue experimentation.

Claims 12, 13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichler et al in view of Pfaff et al. Eichler does not disclose that the controller uses a plurality of dominant order noise source sounds or that the noise source is a vehicle engine. Pfaff et al teach an active noise control system for a vehicle engine comprising controller 26 and loudspeakers 24, 28. There are several sensors for sensing the multiple harmonic components of the noise generated by the engine. The noise varies according to engine speed and throttle conditions. Therefore it was taught that vehicles have a plurality of dominant order noise sources. See column 4 lines 4-26. Active noise control for vehicle engine noise was well known at the time of invention and it was obvious to apply the principles taught by Eichler et al in a vehicle. In addition, it would have been obvious to one of ordinary skill in the art at the time of invention when presented with the calibration technique of Eichler for use in a vehicle to determine the transfer functions of the sound space between a noise microphone and the source of noise for a plurality of engine speeds and throttle conditions, as taught by Pfaff, for the purpose of improving the noise control performance. Regarding claims 16 and 17, the choice of the harmonic order of selected vehicle engine noise sound for calibration purposes was purely one of ordinary skill in the art would have made knowing its benefit and the claimed order would have been realized without undue experimentation.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carne et al, US Patent 6,449,369 and Cairns, US Patent Application 2002/0097884.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. Pendleton
Primary Examiner
Art Unit 2615



btp